

PHILIPS TECHNICAL REVIEW



VOLUME II
1937

PHILIPS RESEARCH LABORATORY · EINDHOVEN

CONTENTS PHILIPS TECHNICAL REVIEW

VOLUME II. 1937

LIGHTSOURCES

Page	Page
Colour reproduction in the use of different sources of „white” light 1	The radiation intensity of the Philips fastness to light meter 282
Spectral distribution of the radiation from the „Biosol” 18	The adjustment of synchronizers for the „Photoflux” Photo Flash Bulb 334
The “Philora” sodiumlamp and its importance to photography 24	The sodium lamp. From laboratory experiment to street lighting. 353
Alternating-current circuits for discharge lamps 103	Illumination at the international exhibition in Paris 1937 361
Water-cooled mercury lamps 165	

LIGHT AND ILLUMINATION

Colour reproduction in the use of different sources of „white” light 1	Technical considerations in the lighting of country roads 239
Illumination and architecture 8	The sodium lamp. From laboratory experiment to street lighting. 353
The representation of colour sensations in a colour space-diagram of colour triangle . . . 39	Illumination at the international exhibition in Paris 1937 361
Public lighting: Principles of Road Lighting 110	
Public lighting: Principles of Street Illumination 142	

RADIO AND TELEVISION

A television receiver 33	A recording field-strength meter of high sensitivity 216
A universal testing set for radio valves 57	The enlarged projection of television pictures 249
Electrolytic condensers 65	Five-electrode transmitting valves (pentodes) 257
Television system with Nipkow disc 72	Inverse feedback 289
Development and manufacture of modern transmitting valves 115	A decimeter wave radio link between Eindhoven and Nimeguen 299
Physical principles of gasfilled hot-cathode rectifiers 122	Noise in amplifiers contributed by the valves 329
The causes of noise in amplifiers 136	The motion of an electron in two-dimensional electrostatic fields 338
An ultra short wave telephone link between Eindhoven and Tilburg 171	A vibrator for the connection of alternating current receiving sets to the direct current mains 346
Position finding and course plotting on board an aeroplane by means of radio 184	Radio landing beacons for aerodromes. . . . 370
Non-linear distortion phenomena of magnetic origin 193	

SOUND, RECORDING AND REPRODUCTION

Octaves and decibels 47	The relationship between fortissimo and pianissimo 266
The playing speed of gramophone records . . . 56	

TELEPHONY

	Page		Page
Magnetic cores for loading coils	77	Non-linear distortion phenomena of magnetic origin	193
An ultra short wave telephone link between Eindhoven and Tilburg	171	The use of amplifiers (repeaters) in telephony	209
		Inverse feedback	289

CATHODE- AND X-RAYS

Practical applications of X-rays for the examination of materials IX	29, 93, 156, 254	The influence of X-ray treatment on flower bulbs (hyacinths and tulips)	321
The recording of rapidly occurring electric phenomena with the aid of the cathode ray tube and the camera	148	The examination of the macrostructure of raw materials and products with the help of X-rays	314, 350, 377
A generator for very high direct current voltage	161		

ELECTROTECHNICAL APPARATUS

A universal testing set for radio valves	57	A generator for very high direct current voltage	161
Electrolytic condensers	65	Surge protection of low-tension overhead lines	225
An apparatus for hysteresis measurements on soft magnetic materials	84	A simple electrical measuring bridge	270
Alternating current circuits for discharge lamps	103	Equivalent network with highly-saturated iron cores with special reference to their use in the design of stabilisers	276
Physical principles of gasfilled hot-cathode rectifiers	122	A vibrator for the connection of alternating current receiving sets to the direct current mains	346
Welding and welding rods	129		
The recording of rapidly occurring electric phenomena with the aid of the cathode ray tube and the camera	148		

MATERIALS AND THEIR RESEARCH

Practical applications of X-rays for the examination of materials	29, 93, 156, 254	The measurement of the hardness of metals and alloys	177
Magnetic cores for loading coils	77	Magnetic steels	233
An apparatus for hysteresis measurements on soft magnetic materials	84	Joints between metal and glass	306
Glass for modern electric lamps and radio valves	87	The examination of the macrostructure of raw materials and products with the help of X-rays	314, 350, 377
Welding and welding rods	129		

MISCELLANEOUS

The photo-electric effect and its application in photo-electric cells	13	The application of magnetic oil filters to lubricating systems	295
Spectral distribution of the radiation from the "Biosol"	18	The influence of X-ray treatment on flower bulbs (hyacinths and tulips)	321
Nuclear Physics	97	The adjustment of synchronizers for the "Photoflux" photo flash bulb	334
High vacuum gauges	201	The motion of an electron in two-dimensional electrostatic fields	338
Surge protection of low-tension overhead lines	225	Abstracts of recent scientific publications	
Equivalent network with highly-saturated iron cores with special reference to their use in the design of stabilisers	276		32, 64, 96, 159, 190, 223, 286, 318, 352, 379
The radiation intensity of the Philips fastness-to-light meter	282		